Oct. 18, 1932. L. T. ROSS 1,882,945

SNOWPLOW

Original Filed March 2, 1931 2 Sheets-Sheet 1

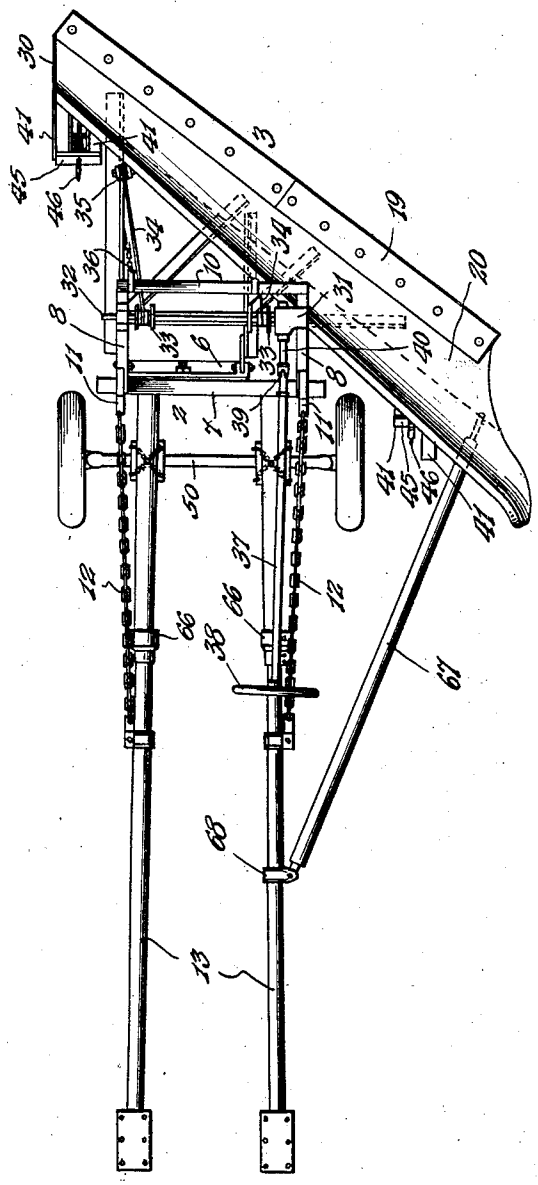


Fig. 1.

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Original Filed March 2, 1931 2 Sheets-Sheet 2

Fig. 3.

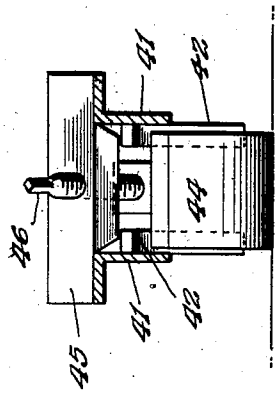


Fig. 2.

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Patented Oct. 18, 1932 1,882,945

UNITED STATES PATENT OFFICE

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SNOWPLOW

Original application filed March 2, 1931, Serial No. 519,579. Divided and this application filed December 4, 1931. Serial No. 579,017.

This application is a division of an application filed by me March 2, 1931, Serial No. 519,579, the present invention providing a novel runner or sliding shoe for snow plows.

In the accompanying drawings,

Figure 1 is a plan view of a snow plow having the present invention applied thereto,

Fig. 2 is a view showing the moldboard in vertical section and a shoe or runner in side elevation,

Fig. 3 is a detail rear sectional elevation of a shoe.

In carrying out the present invention, there is provided a frame 2 which is to be mounted at the front of a motor truck and from which the plow, indicated as an entirety by the reference numeral 3, is carried. This supporting frame 2 carries an abutment bar 6 at its lower end and at its upper end there is provided a cross bar 7, adjacent the ends of which are secured forwardly projecting overhanging beams 8 from the front ends of which braces extend downwardly and rearwardly to the base of the frame to which they are secured. The front ends of the beams 8 are connected by a cross beam and brace 10 whereby a strong, rigid supporting frame is produced. At the rear of the frame, hooks or brackets 11 are provided at the upper end of the same, and to these hooks or brackets are attached the upper ends of guy chains 12 which extend downwardly and rearwardly and have their opposite ends securely attached to the respective push bars 13 whereby the frame is effectually braced and held against toppling forward while, at the same time, they aid in supporting the push bars.

From the ends of the bar 6 extend elements which are connected to the plow. The plow comprises a blade or share 19, which may be a single element extending the full width of the plow or a plurality of similar elements, two being illustrated in the present drawings. As shown clearly in Fig. 2, the blade is beveled on both its side edges whereby either edge may be utilized as a cutting edge, the blade being thus rendered reversible so that when one edge has become worn, the opposite edge may be brought into use without loss of time required to sharpen the share. The plow also comprises a moldboard 20 which extends upwardly and rearwardly from the blade or share and has a concave front face whereby the snow raised by the blade will be rolled over instead of being pushed ahead as a dead weight. The moldboard is also set obliquely, as clearly shown in Fig. 1, and projects laterally beyond one side of the propelling truck or tractor so that a wide path will be formed and the snow will be deposited at one side beyond the path in such a manner that it will not roll back onto the cleared space. The blade or share is secured upon the front marginal portion of a connecting plate 21, the rear edge of which projects under the front edge of the moldboard and is firmly bolted thereto, as shown clearly in Fig. 2. Secured to the moldboard and the connecting plate 21, by the same bolts 22 which join the connecting plate and the moldboard, is a push plate 23, the front edge portion of which projects under the connecting plate and the rear portion of which extends rearwardly at an angle to the front portion, as shown at 24, and is secured to the under sides of the several plow-supporting arms and braces whereby the moldboard will be very firmly supported and carried by the frame 2.

The moldboard is reinforced by sheet metal braces 28 set on edge vertically across the back of the moldboard and conforming thereto and welded to the moldboard and to the push plate 24 so that a very rigid structure is produced, free of excessive weight, and buckling of the moldboard is overcome. At the left or forward end of the moldboard is a landside 30 which projects forwardly beyond the face of the moldboard so that it will cut through the snow and thereby lessen the strain on the forward end of the plow.

Mounted upon the top of the frame 2 and resting on the beams 8 is a gear case 31, a winding shaft 32 being mounted at one end in said case and at its opposite end in a suitable bearing upon the adjacent beam 8, as will be understood upon reference to Fig. 1. This shaft 32 has spools 33 secured thereon, and cables 34 are secured to the respective

spools to wind thereon, said cables passing downwardly from the spools to guide pulleys 35 mounted upon the supporting arms adjacent the moldboard and then extending up to short chains 36 attached to brackets on the front of the frame 2 at the top of the same. A controlling shaft 37 is provided and extends into the cab of the vehicle where it is equipped with a handwheel 38 whereby it may be rotated when necessary. The front end of this controlling shaft or rod 37 is connected by a universal joint 39 with the rear end of a short shaft 40 which extends into the gear case and is operatively connected with the winding shaft 32 through suitable gearing housed in the gear case, as will be understood.

At the rear of the moldboard, at or adjacent the respective ends thereof, are runner frames 41 which are secured in any convenient manner to the adjacent supporting arm or to the push plate 24, as may be most convenient. These runner frames 41 comprise parallel members, as shown in Fig. 3, provided on their inner opposed sides with downwardly and forwardly extending lugs 42 engaging in grooves 43 in the opposite sides of a runner or shoe 44. The rear end of each frame 41 is bridged by an angle bar 45, threaded through which is an adjusting screw 46 having its front end swiveled in a lug or bracket 47 rising from the adjacent shoe 44 near the rear end of the same. The screw is held in a set position by a lock nut 48 mounted thereon and adapted to be turned home against the bar 45, as will be understood upon reference to Fig. 2. It will be noted that the front ends of the shoes are tapered so that inclined surfaces are provided on both their upper and their lower sides, this formation not only facilitating the travel of the shoes over the snow and ground but also permitting them to be adjusted close to the plow for firmly supporting the same.

The push bars 13 have their front ends secured firmly to the abutment bar 6 in any convenient manner, which will possess the necessary strength. The push bars extend rearwardly below the front axle 50, and their rear ends are arranged to abut the spring pads which rest upon the rear axle under the rear springs. The push bars are of telescopic formation whereby they may be adjusted to the wheel base of the particular truck or tractor to which the plow is to be applied, the front member of the push bar being tubular, while the rear member is a solid rod having its rear end held to and supported by the rear axle. The forward portion of the push bar is suspended by crossed chains from the front springs of the vehicle running gear. To maintain the members of the push bars in their set relation after they have been adjusted, clamps 66 are provided which encircle the rear ends of the forward members of the respective push bars and the immediately adjacent portion of the rear portions of the bars.

A diagonal brace 67 extends between the outer or rear end of the plow and the adjacent push bar, its front end being pivotally connected in any convenient manner to the push plate 24, and the rear end being pivoted in a clamp 68 which is firmly secured upon the adjacent push bar. This brace 67 serves to withstand the thrust upon the free end of the moldboard and also cooperates with the supporting braces to resist side draft of the plow which is spread equally through the entire length of the truck.

Having thus described the invention, I claim:

1. The combination with a snow plow, of runner frames connected thereto adjacent the ends of the same, each runner frame comprising spaced elements provided on their opposed inner faces with downwardly and forwardly inclined lugs, shoes disposed between said lugs and provided in their sides with grooves receiving the lugs, and means mounted on the shoes and the runner frames for adjusting the shoes downwardly and forwardly.

2. The combination with a snow plow, of runner frames secured thereto adjacent the ends thereof and including parallel side members provided on their inner opposed faces with obliquely disposed lugs, shoes disposed between said lugs and having inclined grooves in their sides receiving the lugs, and adjusting screws mounted in the runner frames and having swivel connections with the respective shoes whereby to adjust the shoes downwardly and forwardly.

In testimony whereof I affix my signature.

LESTER T. ROSS. [L. S.]